STANDARDIZED TECHNICAL DATA PACKAGES

Implementation of AP 232 for data exchanges

JL Le Gal CNES
JC Honnorat Alcatel Space

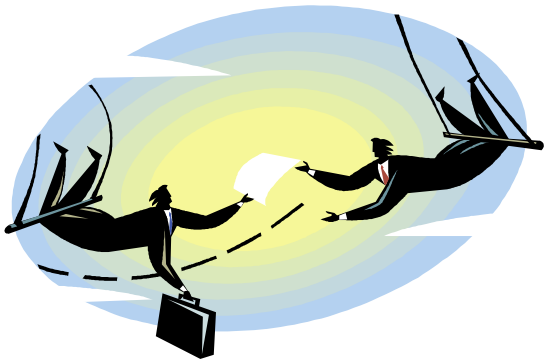
Context

- Technical teams distributed in the company
- Vast amount of data and models managed by different systems (Databases, File systems…)
- Large cooperations

Context

- Technical teams distributed in the company
- Vast amount of data and models managed by different systems (Databases, File systems…)
- Large cooperations

⇩ General problem of



» data exchange inside the company

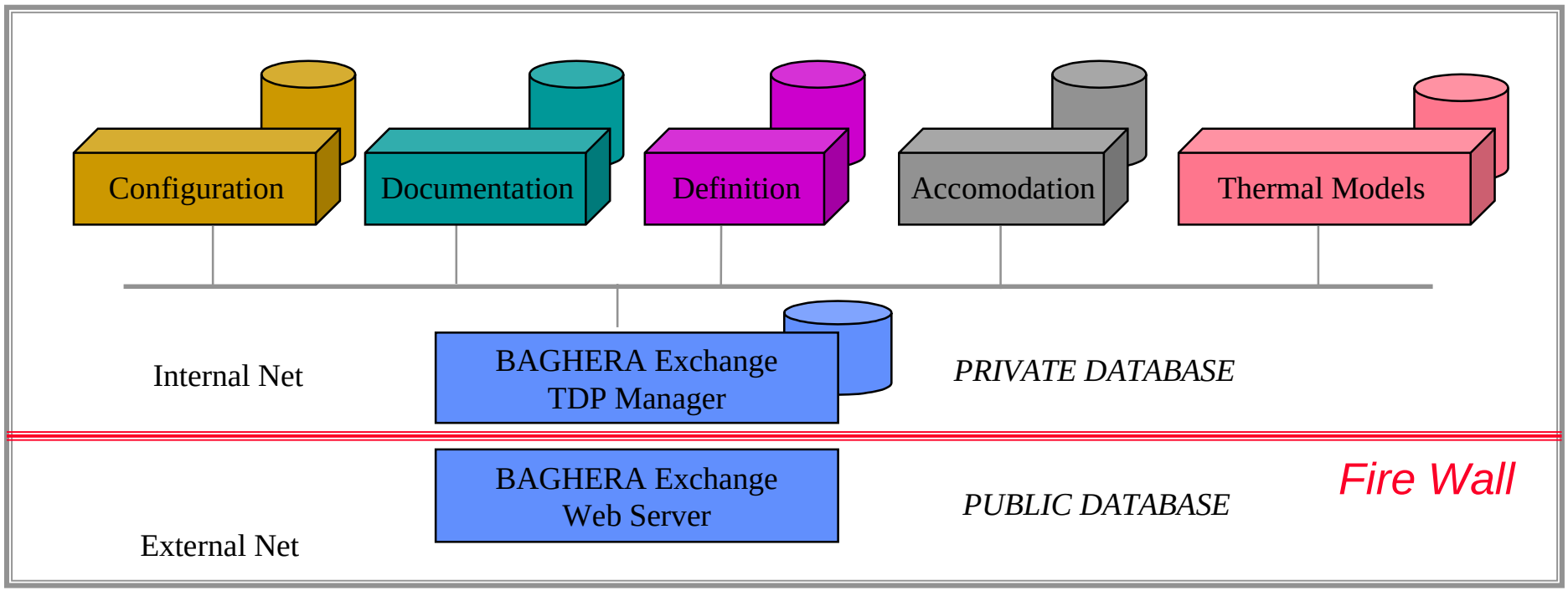
» data exchange with clients, partners, sub-contractors

CNES Approach

- Use, development and promotion of Product Data standards to :
  - exchange data with partners,
  - ensure the smooth flow of data among functionnal groups (design, engineering, production, operations, etc.),
  - preserv the « technical memory » of the organisation.

- Development of an exchange database (Baghera Exchange) to solve data delivery and distribution :
  - Management of Data Packages,
  - Use of Internet to place information at actor ’s disposal.

Baghera-Exchange principles



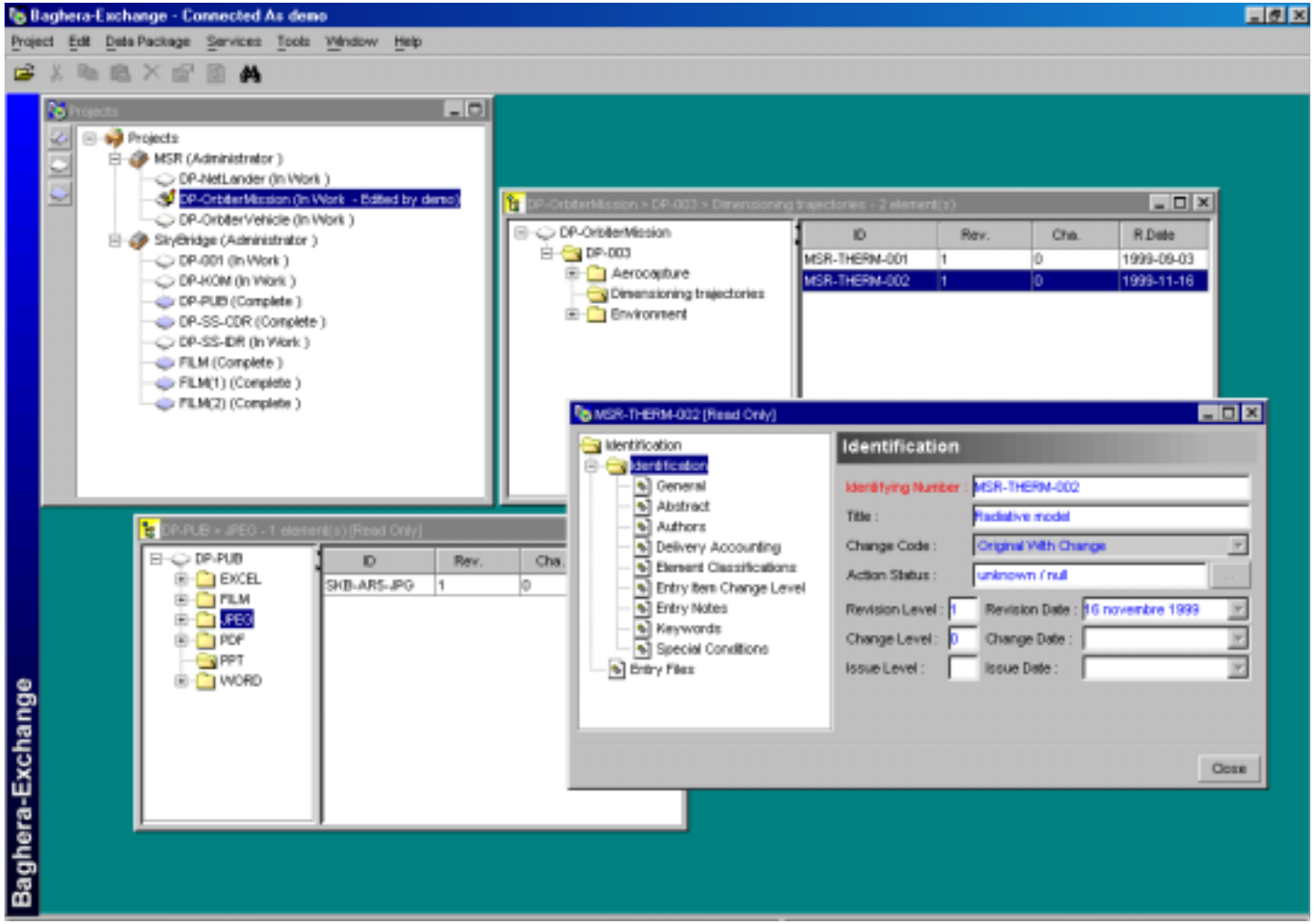
Internet Access

External Exchanges via STEP AP 232

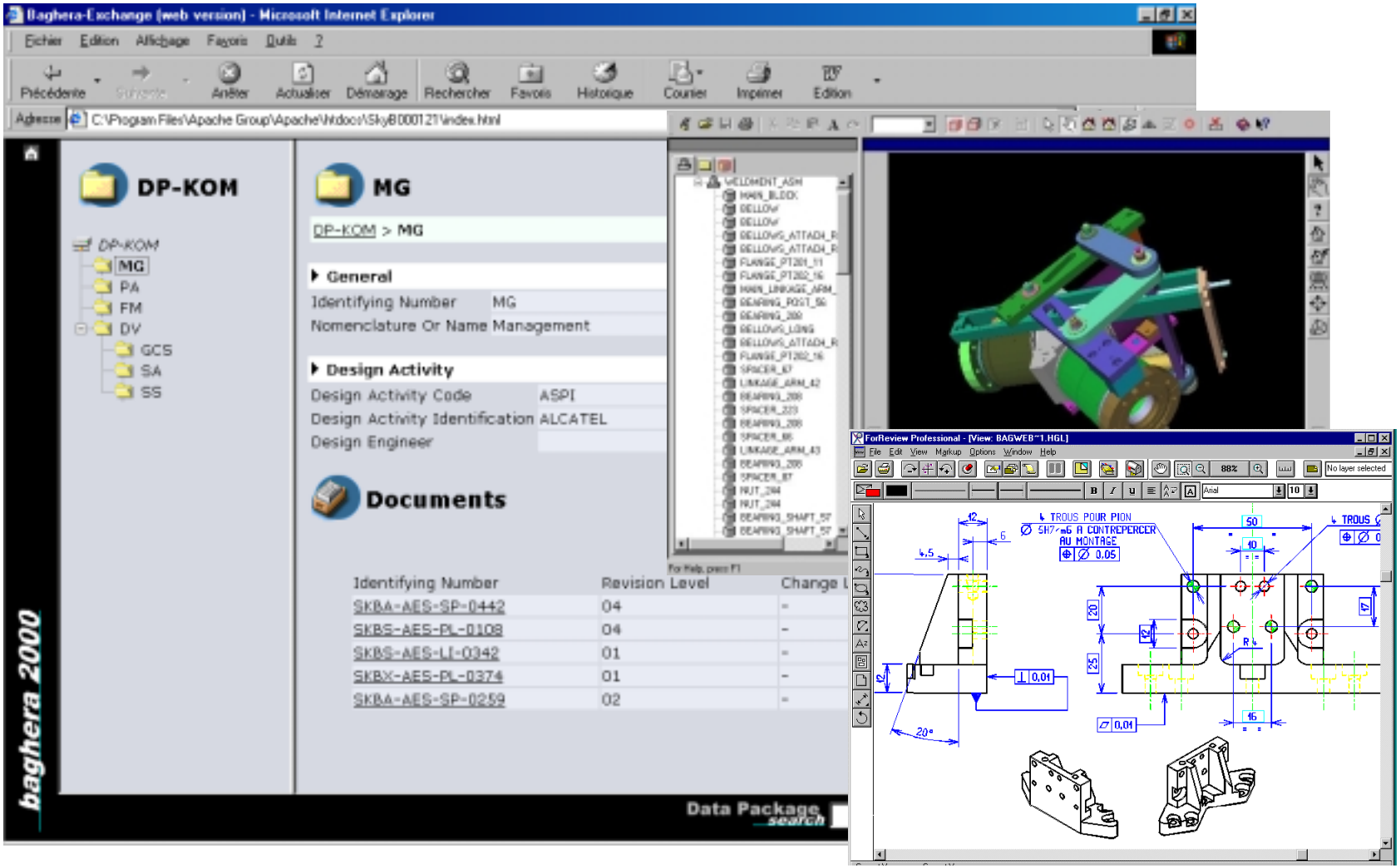
Technical choices

- Application based on STEP AP 232 :
  - Automatic generation of JAVA and SQL code from AP 232 ARM (STEPWISE european project)
  - Database schema based on Data Definition Exchange (DDE) UoF
  - Java early binding AP232 interface (JDBC)
- Distributed architecture over the network : CORBA
- Java User Interface
- Data Packages Data Base : ORACLE 8
- Web server compliant with security constraints :
  - Authentication
  - HTML directory publishing across the fire wall

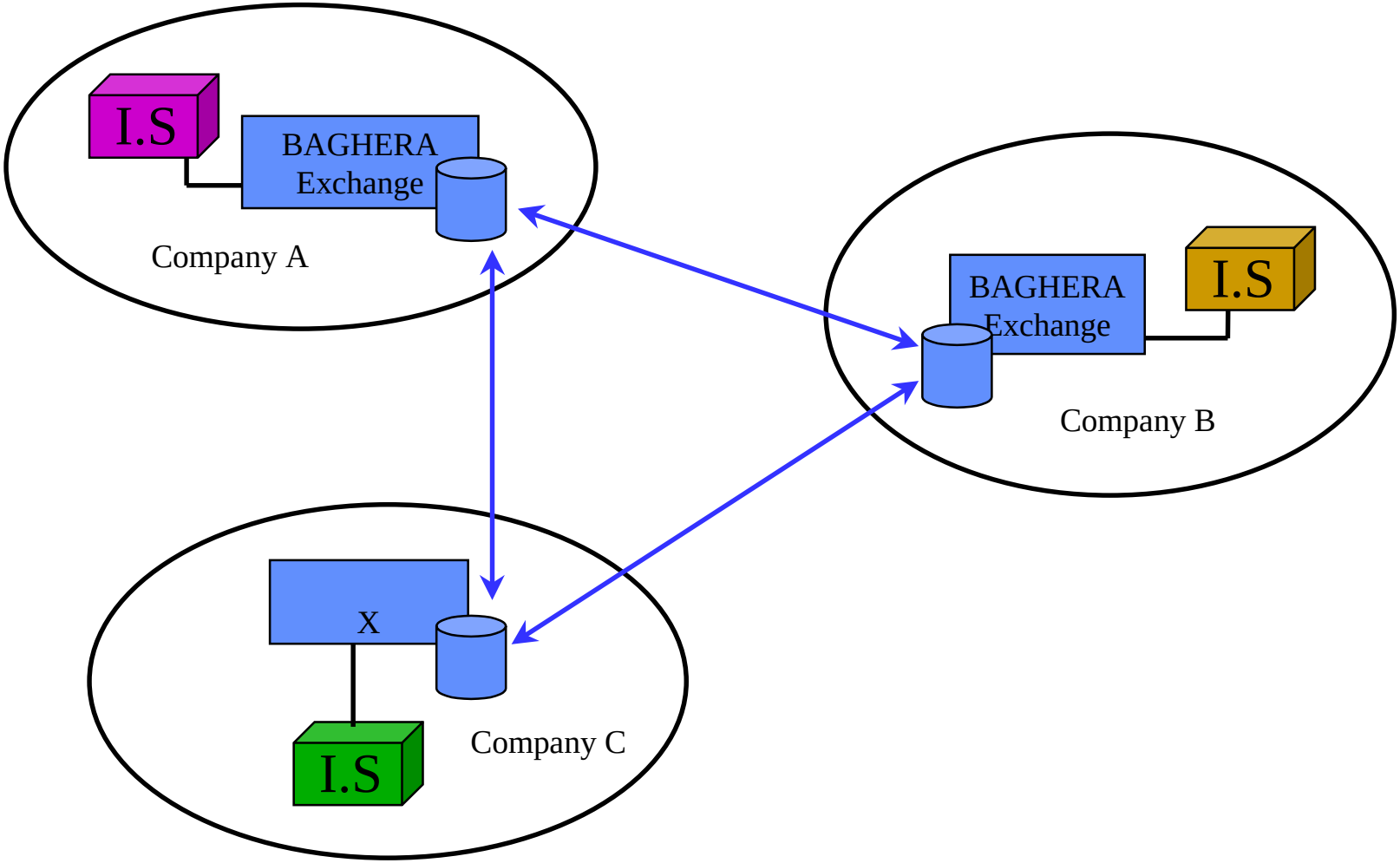
BAGHERA Exchange :TDP Manager



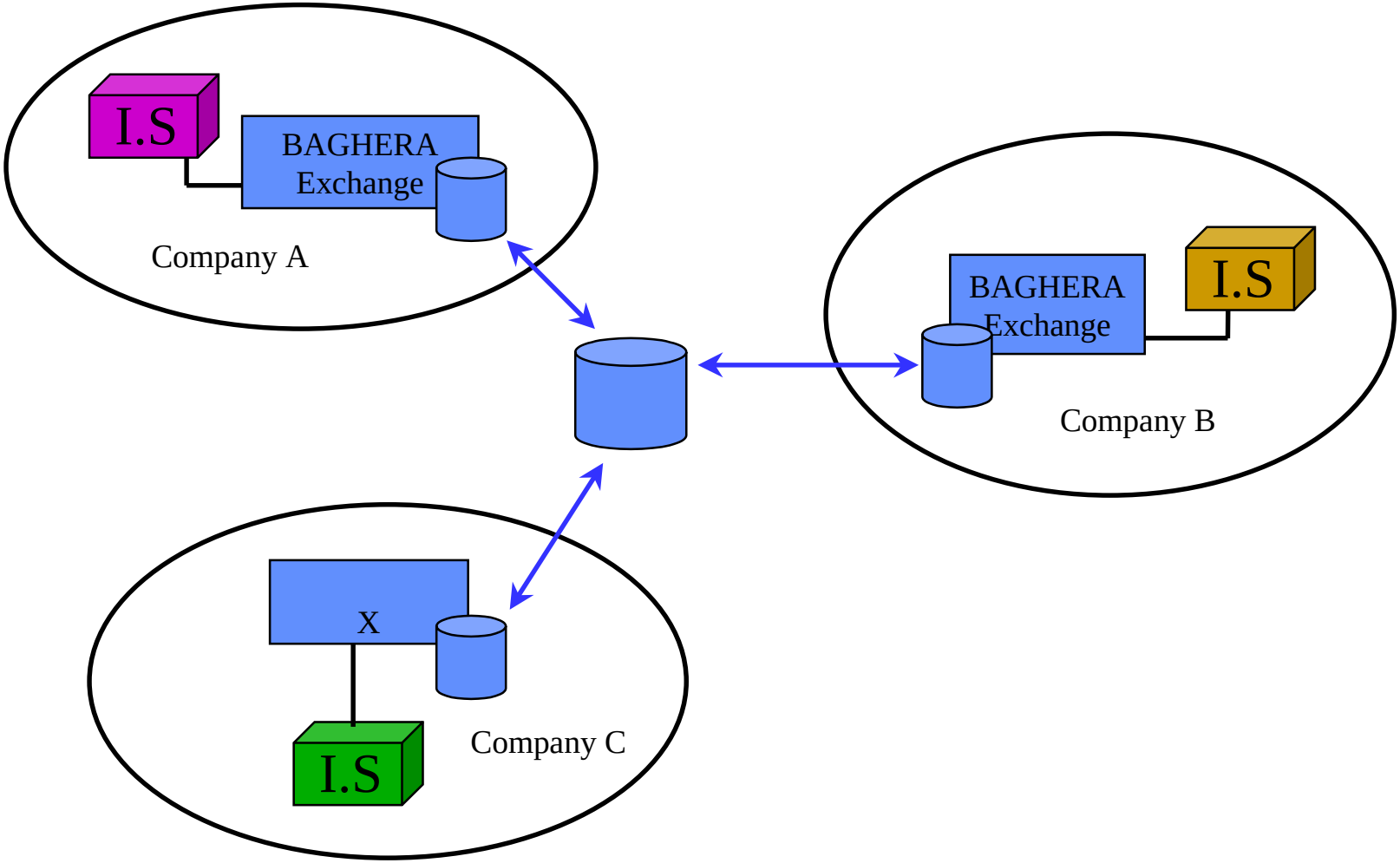
BAGHERA Exchange : Web Server



One Web server by site...



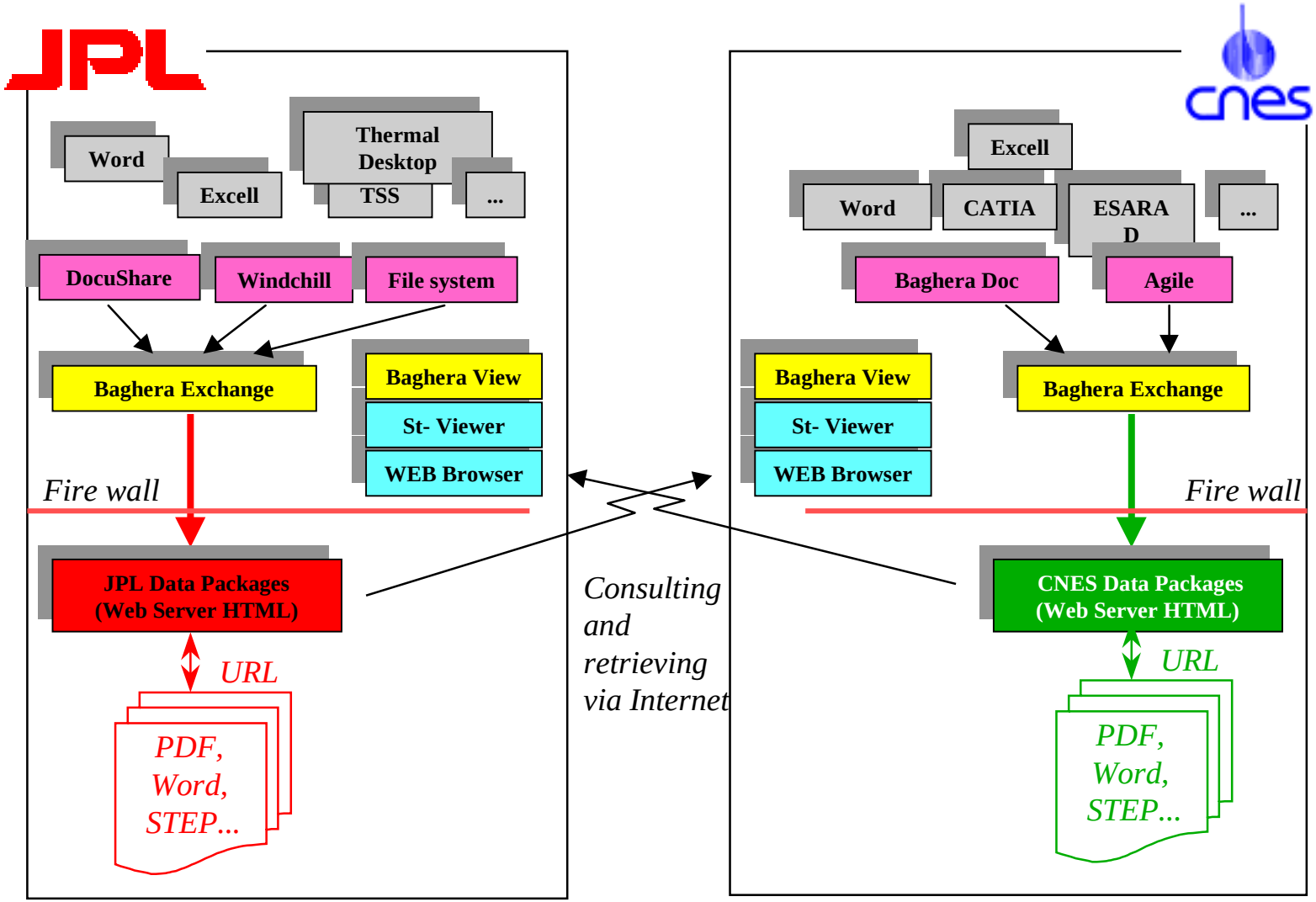
… or One shared Web server



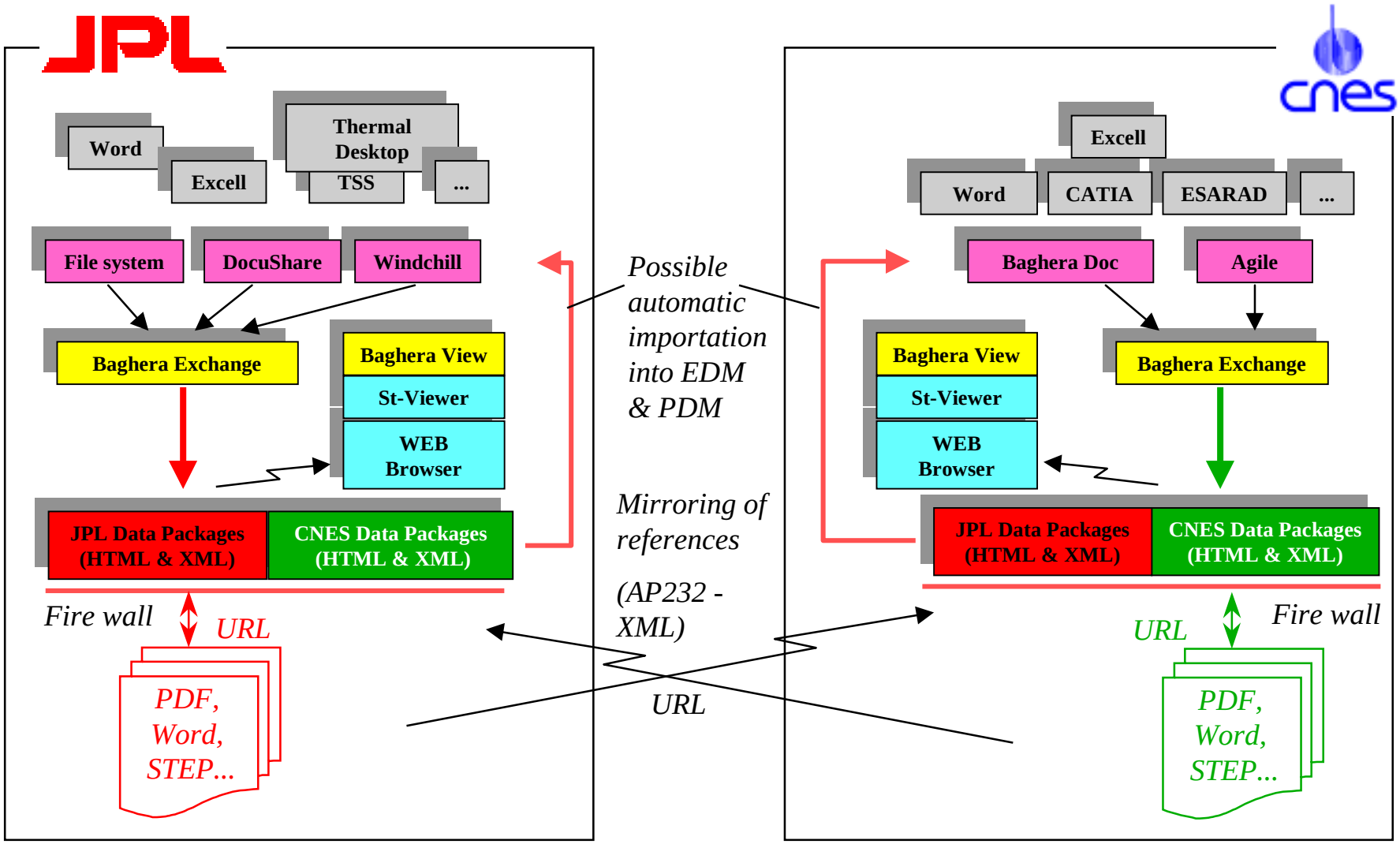
Proposal of a JPL-CNES co-operation

- Experimentation of exchange based on AP 232 in the frame of a pilot project :
  - Demonstration of an interface with JPL document system
  - Integration of JPL Core Meta-Data in the file system service
- Feed back to ISO AP 232 study
  - Possible issues related to space domain
  - Common work relating to XML implementation
  - JPL Core Meta-Data / AP 232 mapping

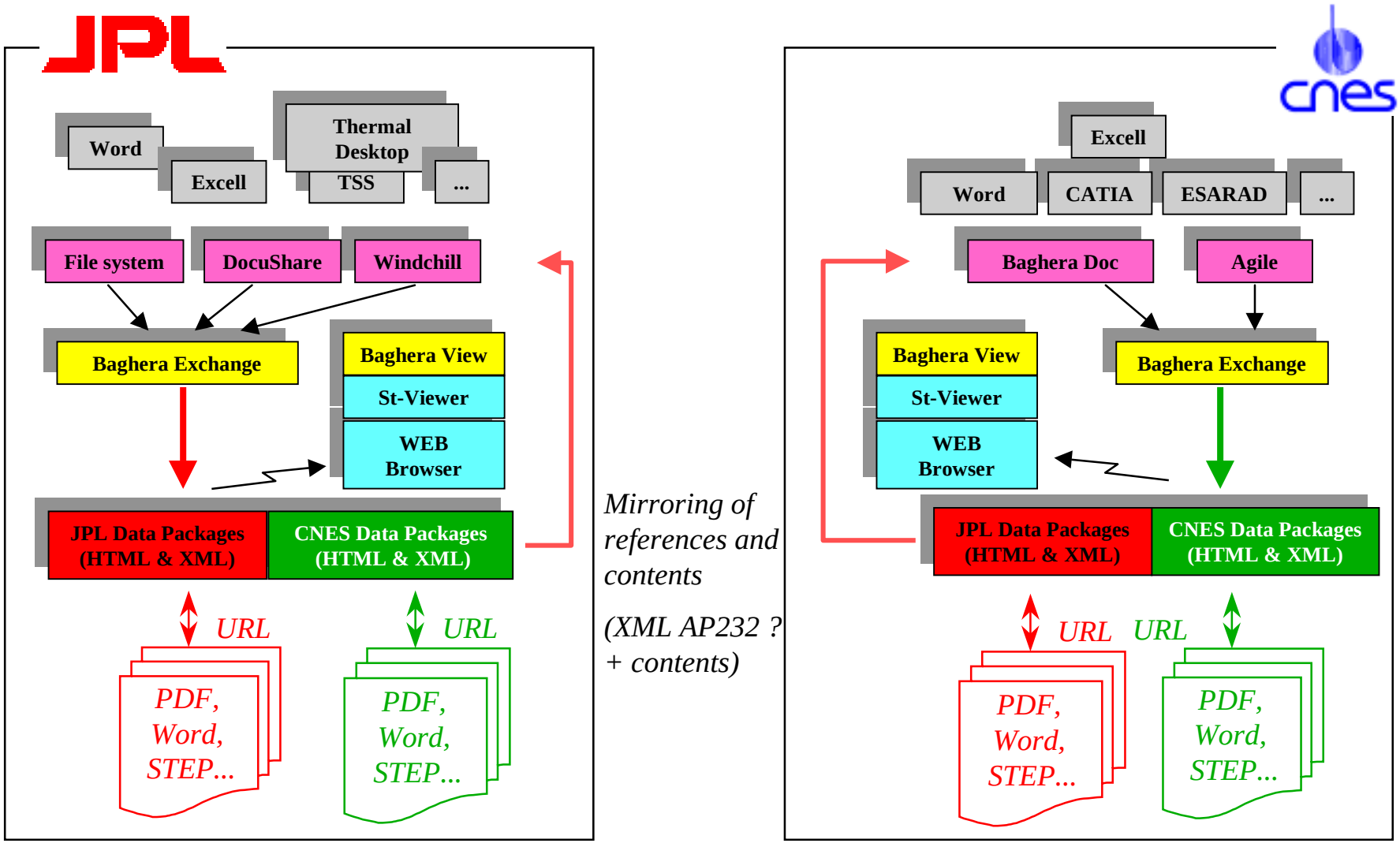
Prototype architecture proposal (stage 1)



Prototype architecture proposal (stage 2)



Prototype architecture proposal (stage 3)



Benefits of the approach

- Independent of companies Information System tools
- Tracability of the exchange
- Distinction between internal information and exchanged information (filtering)
- Capabilities of automatic or selective importation of partner data (meta-data + contents) into internal information system
- Commmon view on co-operative project between partners